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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,395

03/30/2006

Fusayuki Nagano

50292-00001

5899

25231

7590

03/06/2009

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EXAMINER

TOOM, IYAD F

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

03/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,395	Applicant(s) NAGANO ET AL.	
	Examiner IYAD TOOM	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/30/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 recite the limitations "the first temperature sensitive element and the second temperature sensitive element" in the second and third lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 6 recite the limitations "the first temperature sensitive element and the second temperature sensitive element are wax thermoelements" in the second and third lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Herbenar, US Patent No. 2,830,767.

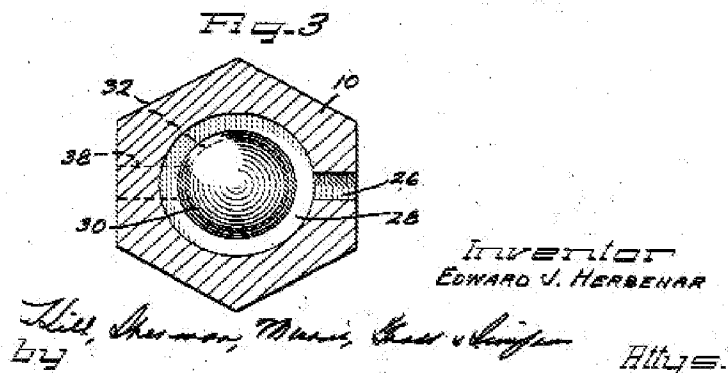
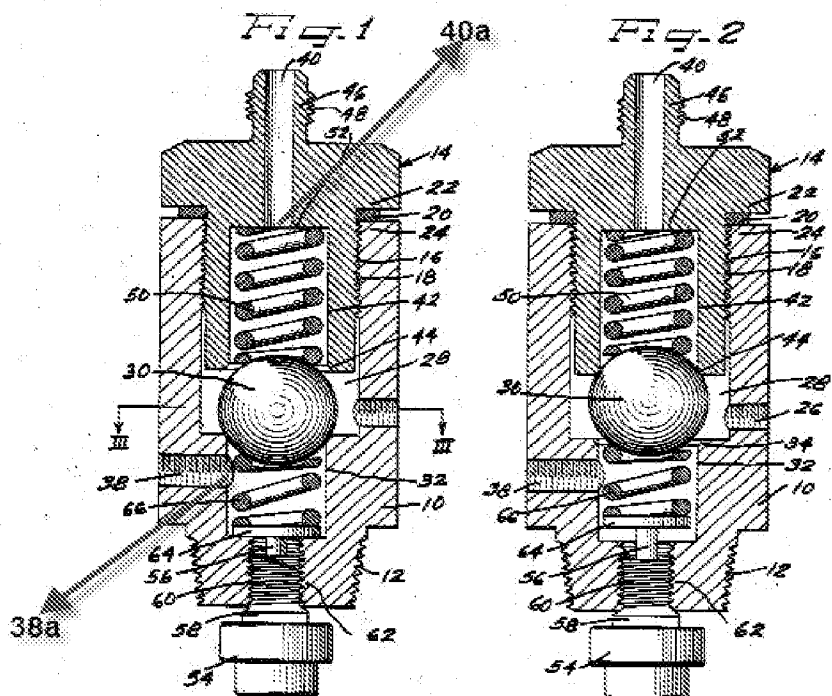
April 15, 1958

E. J. HERBENAR

2,830,767

SELECTOR VALVE

Filed Jan. 6, 1958



Examiner added 2 arrows to fig.1 for clarification.

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In regard to claim 1, Herbenar discloses in figs. 1-3, a channel switching valve comprising: a valve casing, the valve casing is the outside surface of the valve, a valve body 30, and valve body activating means 56, 54 and 66, wherein the valve casing includes: a fluid supply port 26 for supplying fluid into the valve casing; a first drain port 40 for draining fluid having a temperature out of a predetermined temperature range, which is supplied into the valve casing through the fluid supply port 26; a second drain port 38 for draining fluid having a temperature in the predetermined temperature range, which is supplied into the valve casing through the fluid supply port 26; a first channel connecting the fluid supply port to the first drain port 40, first channel is made up of chamber 28 and recess 42; a second channel connecting the fluid supply port 26 to the second drain port 38; second channel is made up of chamber 28 and recess 32; a first valve hole 40a provided in the middle of the first channel, a second valve hole 38a provided in the middle of the second channel, a first valve seat 44 provided corresponding to the first valve hole; and a second valve seat 34 provided corresponding to the second valve hole, wherein the valve body 30 moves between a first position in which the valve body 30 contacts the first valve seat 44 to close the first valve hole 40a and a second position in which the valve body 30 contacts the second valve seat 34 to close the second valve hole 38a, fig. 2 shows the valve body 30 in contact with the first valve seat 44 to close the first hole 40a and fig. 1 shows the valve body 30 in contact with the second valve seat 34 to close the second hole 38a, wherein the valve body activating means 56, 54 and 66 allows the valve body to be placed in the first position or the second position based on the temperature of the fluid, col. 2,

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lines 40-50 disclose that the valve body 30 moves between the first and the second positions based on temperature of fluid; wherein a part of the first channel and a part of the second channel are common, first channel and second channel have common part 28 which corresponds to a chamber in which fluid flows, the switching valve further includes lock means 58 for forcefully moving the valve body 30 to the first position and holding the valve body 30 in the first position, lock means 58 is capable of forcefully moving the valve body 30 to the first position and holding it in the first position by turning the lock means 58 into a position that forces the valve member 30 to be held in the first position, lock means is assisted by member 60 which is a threaded member that is capable of being turned.

in regard to claim 2, Herbenar discloses in fig. 1 the valve body 30 which has a shape of ball, the valve member has first end face which is seated against valve seat 44 and corresponds to the upper face of the valve body 30 and a second end face which is seated against valve seat 34 and corresponds to the lower face of the valve body 30.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar as applied to claim 1 above in view Yamada Japanese Publication No. 1-173580 which is listed on the instant application IDS.

in regard to claim 4, Herbenar does not disclose that the lock means 58 include a handle and that every time a user operates the handle, the valve body 30 switches between a locked state in which the valve body is held in the first position and an unlocked state in which the holding of the valve body 30 in the first position is released. Yamada discloses as in figs. 1-2 having a handle 10 that operates to lock the valve between a locked and unlocked positions.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Herbenar to include a handle to manually operate the valve between two different position as taught by Yamada in order to maintain the operation and keep control of the selector valve in case of the failure of the automatic valve activating means.

Claims 3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar as applied to claim 1 above in view of Perlman et al., US Patent No. 5,261,597.

In regard to claim 3, Herbenar discloses in fig. 2 that valve body activating means 56, 54 and 66 includes a first temperature sensitive element 54 biasing the valve body 30

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toward the first position and a bias spring 50 biasing the valve body toward the second position which is shown in fig. 1, however, Herbenar does not disclose having a second temperature sensitive element but Perlman does. Perlman discloses in the Abstract and fig. 1 having a conventional compression spring and another spring that is a temperature sensitive.

By modifying Herbenar to include a second temperature sensitive element with the bias spring 50, the first and second temperature sensitive elements biasing forces will change individually depending on the fluid temperature while the biasing force of spring 50 which is not a temperature sensitive element will be independent of the temperature of the fluid, when the temperature of the fluid in the predetermined temperature range which is indicated in fig. 2 the force of the first temperature sensitive element 54 has to be larger than the forces of the second temperature sensitive element and biasing spring 50 in order to force the valve body 30 to move to the first position shown in fig. 2, while in the case of the temperature of the fluid being out of the predetermined range, the combined biasing forces of the bias spring 50 and the second temperature sensitive element have to be larger than force of first temperature sensitive element 54, this is shown in fig. 1. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Herbenar to include a second temperature sensitive element in order to achieve a better and more reliable temperature control of the selector valve.

In regard to claim 5, Herbenar and Perlman disclose a first temperature and second temperature sensitive elements, Perlman discloses in the Abstract that the

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temperature sensitive element is made of shape memory alloy and while Herbenar does not disclose that the first temperature sensitive element is made of shape memory alloy it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Herbenar temperature sensitive element to be made of shape memory alloy because shape memory alloy temperature sensitive elements are reliable and proven elements for temperature control valves, shape memory alloys are known to be reversible depending on the temperature of the fluid as disclosed in Perlman col. 1, lines 32-59.

In regard to claim 6, Herbenar discloses that the first temperature sensitive element is made of wax material and while Perlman does not disclose that the temperature sensitive element is made of wax but it would have been obvious to a person of ordinary skill in the art at the time of the invention to use wax thermo-elements as the temperature sensitive elements since wax is a well known temperature sensitive element that has excellent temperature control attributes and is very suitable for use in a variety of temperature control applications.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar in view Yamamoto, Japanese Publication No. 2003024232 which is disclosed as a background art in the instant application.

In regard to claim 7, Herbenar discloses in figs. 1-3, a channel switching valve including a valve casing, the valve casing is the outside surface of the valve, a valve body 30, and

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valve body activating means 56, 54 and 66, wherein the valve casing includes: a fluid supply port 26 for supplying fluid into the valve casing; a first drain port 40 for draining fluid having a temperature out of a predetermined temperature range, which is supplied into the valve casing through the fluid supply port 26; a second drain port 38 for draining fluid having a temperature in the predetermined temperature range, which is supplied into the valve casing through the fluid supply port 26; a first channel connecting the fluid supply port to the first drain port 40, first channel is made up of chamber 28 and recess 42; a second channel connecting the fluid supply port 26 to the second drain port 38; second channel is made up of chamber 28 and recess 32; a first valve hole 40a provided in the middle of the first channel, a second valve hole 38a provided in the middle of the second channel, a first valve seat 44 provided corresponding to the first valve hole; and a second valve seat 34 provided corresponding to the second valve hole, wherein the valve body 30 moves between a first position in which the valve body 30 contacts the first valve seat 44 to close the first valve hole 40a and a second position in which the valve body 30 contacts the second valve seat 34 to close the second valve hole 38a, fig. 2 shows the valve body 30 in contact with the first valve seat 44 to close the first hole 40a and fig. 1 shows the valve body 30 in contact with the second valve seat 34 to close the second hole 38a, wherein the valve body activating means 56, 54 and 66 allows the valve body to be placed in the first position or the second position based on the temperature of the fluid, col. 2, lines 40-50 disclose that the valve body 30 moves between the first and the second positions based on temperature of fluid; wherein a part of the first channel and a part of the second channel are common, first

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channel and second channel have common part 28 which corresponds to a chamber in which fluid flows, the switching valve further includes lock means 58 for forcefully moving the valve body 30 to the first position and holding the valve body 30 in the first position, lock means 58 is capable of forcefully moving the valve body 30 to the first position and holding it in the first position by turning the lock means 58 into a position that forces the valve member 30 to be held in the first position, lock means is assisted by member 60 which is a threaded member that is capable of being turned.

However, Herbenar does not disclose a shower system and that the shower system further comprising a hose and a shower head, with the shower head is connected to the first drain port 40 of the channel switching valve through the hose, but Yamamoto does, Yamamoto discloses in fig. 1 a shower system with a shower head 13 and a hose. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the channel switching valve of Herbenar to be used in a shower system and to connect the first drain port 40 to be connected to the shower head as taught by Yamamoto in order to selectively direct the fluid flow to the shower system based on the fluid temperature.

Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar in view Matsui et al., US Patent No. 5,878,949 and further in view of Yamada.

In regard to claim 8, Herbenar discloses as in figs. 1-2, a channel switching valve comprising: a body, the outside surface of the valve is the body of the valve and which

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encloses the rest of the valve parts including valve channel in which a channel is formed through which fluid passes, chamber 28, recesses 42 and 32 form the channel, , a discharge hole 38a which is opened in the body to supply the fluid to a subsequent element, a drain hole 40a which is opened in the body to drain the fluid if the temperature of the fluid is out of a predetermined temperature range, a valve body 30 which is accommodated in the channel, 28, 42 and 32 and opens or closes either a part of the channel 28, 42 and 32 connecting to the discharge hole 38a, that part corresponds to the contact of the valve body 30 with the valve seat 32 or a part of the channel 28, 42 and 32 connecting to the drain hole 40a, that part corresponds to the contact of the valve body 30 and the valve seat 44, and a bias spring 50 which is accommodated in the channel 28, 42 and 32 so as to bias the valve body in a direction opposite to the predetermined direction, Herbenar discloses in col. 2, lines 33-39 the operation of the bias spring 50. However, Herbenar does not disclose a first temperature sensitive element which is accommodated in the channel 28, 42 and 32 and a second temperature sensitive element which is also accommodated in the channel 28, 42 and 32 and a handle for forcefully moving the valve body in the channel, is connected to the valve body and by operating the handle, the valve body is moved to close the part of the channel connecting to the drain hole.

Further in regard to claim 8, Matsui discloses in fig. 50 and in the background art using two temperature sensitive elements 253 and 254 in the valve, col. 1, lines 36-43, by modifying Herbenar invention to include a first temperature sensitive element 254 to be used in the place of spring 66 and a second temperature sensitive element 253 along

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with biasing spring 50, the first temperature sensitive element 254 will bias the valve body 30 in a predetermined direction which correspond to fig. 2 and the bias spring 50 and the second temperature sensitive element will bias the valve body 30 in a direction opposite to the predetermined direction which is shown in fig. 1, since the temperature sensitive elements are sensitive to fluid temperature, the biasing forces of the first temperature sensitive element 254 and the second temperature sensitive element will individually change depending on the temperature of the fluid which is shown in figs. 1 and 2 and in which the position of valve body 30 is upwards in fig. 2 and is downwards in fig. 1.

Fig. 1 shows the drain hole 40a open which is a result of the sum of the biasing force of the bias spring 50 and the second temperature sensitive element 253 being larger than the biasing force of the first temperature sensitive element 66 which results in moving the valve body 30 downwards. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Herbenar to include a first temperature and second temperature sensitive elements as taught by Matsui to effectively and accurately control the valve switching mechanism.

Herbenar does not disclose using a valve handle for forcefully moving the valve body in the channel 28, 32 and 42, in order to move the valve body 30 to close the part of the channel connecting to the drain hole 40a. Yamada discloses as in figs. 1-2 having a handle 10 that operates to lock the valve between a locked and unlocked positions.

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it would have been obvious to a person of ordinary skill in the art at the time of the invention to include a handle mechanism as taught by Yamada to the channel switching valve of Herbenar in order to manually control the channel switching valve in case of failure of the automatic control and also to increase control of valve operation by the user.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYAD TOOM whose telephone number is (571)270-7395. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules or Cheryl Tyler can be reached on 571-272-6681 or 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/I. T./
Examiner, Art Unit 3744/Frantz F.
Jules/
Supervisory Patent Examiner, Art
Unit 3744

2/26/2009

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744

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